



Third West Weekly Report Shepherd, Michael

to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)' 07/24/2012 10:18 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Bamitz (cbamitz@utah.gov)'" <cbamitz@utah.gov>

7 Attachments











Weekly Report 07-16 to 07-20-12.pdf Third West Weekly Log - 2012-29.pdf 240302-1.pdf 240405-1.pdf 240485-1.pdf





240694-1.pdf 240695-1.pdf

Joyce & Craig,

Attached are the reports for the week of July 16, 2012.

All air monitoring results came back negative.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
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3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

			DAILT CHECKLIST
ATI	C:	<u>07/16</u>	/12
C			
	eneral	0 m 0 0 1 I	calth and Cafaty Inspection
			ealth and Safety Inspection
NA	4		www and if necessary update Activity Hazard Analyses (AHA) based on planned site
N.T			ties for the day
N/	4	to cor	y Planning or "Tailgate" mandatory meeting for all employees and contractors prior nmencement of any site work. Instruction, review hazards, health & safety issues ny modifications to the CSHASP
N/	4		nazard and safety instruction for all first time employees, contractors or visitors
NA NA			blete Employee Meeting Record Form B (where applicable)
NA			ment required Respirator Training completion with Form H
NA			rd times and numbers of dump trucks and trailers as they leave the site with
17 1			minated material.
ĪΑ			irm return of waste material manifest documents for each load with site
17.		mana	
İΑ	Comn		CSHASP Forms (for applicable activities planned for that day)
•••	NA NA	ioto un	Illness/Injury Report Form A
	NA		Site-Specific Training Record Form C
•	NA		Hot Work Permit Form D
	NA		Trench/Evacuation Permit Form E
	NA		Combined Space Entry Permit From F
	1 17 1		Exclusion zone operations are practiced as instructed.
		NA	Decontamination unit is working properly.
		NA	Workers are using decontamination unit as instructed.
		NA	Workers use personal protective equipment properly.
			ir samples at cardinal compass points around exclusion zone. Check
			ghout the day to ensure proper operation.
			rve control measures for dust and fugitive materials i.e. watering excavation
_			and track out prevention.
$\overline{\square}$			ew sign-in/sign-out log throughout and at the end of the workday.
		Secui	re the site at the end of the workday
Sa	mpling	3	
JΔ	Soil	onfirm	nation sampling for any newly excavated areas

NA	Soil Confirmation sampling for any newly excavated areas
NA	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





\square	Electronically file photo files into the on-site database
	Complete Field Documentation
$\overline{\mathbf{V}}$	Field Sample Data Sheets (FSDS)
$\overline{\mathbf{V}}$	Logbook
$\overline{\mathbf{A}}$	On-site computer database
	Label each sample media with a unique number
$\overline{\mathbf{V}}$	Seal sample(s) in zip lock plastic bags
\square	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 07/16/12		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By:	Title:		

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	,
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	X			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			,
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.	r		х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Newman worked on road around the yard and finished stockpiling excavated material from trenching. They watered down the stockpile and much of the yard. They backfilled around the porches at switch gear entrances.

CVE line crew finished work on buss to switch gear.

Weather was warm and mostly cloudy with afternoon showers and temperatures around 90.



removal

determined necessary

NA



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DAIL I CHECKLIST
DATE:	07/17	/12
Canara	1	
General NA Wor	_	ealth and Safety Inspection
NA WOI		earth and Safety hispection was and if necessary update Activity Hazard Analyses (AHA) based on planned site
INA		ties for the day
NA	Safety to cor	y Planning or "Tailgate" mandatory meeting for all employees and contractors prior mmencement of any site work. Instruction, review hazards, health & safety issues ny modifications to the CSHASP
NA		azard and safety instruction for all first time employees, contractors or visitors
NA NA		plete Employee Meeting Record Form B (where applicable)
NA NA		ment required Respirator Training completion with Form H
NA NA		rd times and numbers of dump trucks and trailers as they leave the site with
NA		minated material.
NA		rm return of waste material manifest documents for each load with site
NA.	mana	
NA Com		CSHASP Forms (for applicable activities planned for that day)
NA	ipiete aii	Illness/Injury Report Form A
NA		Site-Specific Training Record Form C
NA		Hot Work Permit Form D
NA		Trench/Evacuation Permit Form E
NA		Combined Space Entry Permit From F
147 \$		Exclusion zone operations are practiced as instructed.
	NA	Decontamination unit is working properly.
	NA	Workers are using decontamination unit as instructed.
	NA	Workers use personal protective equipment properly.
-	a . •	
☑		r samples at cardinal compass points around exclusion zone. Check
		ghout the day to ensure proper operation.
		rve control measures for dust and fugitive materials i.e. watering excavation
171		and track out prevention.
☑		ew sign-in/sign-out log throughout and at the end of the workday. The the site at the end of the workday
	Secui	e the site at the end of the workday
<u>Samplir</u>	ng	
NÀ Soil	Confirm	ation sampling for any newly excavated areas
NA	Statio	onary Air Monitoring during contaminated soil removal around the perimeter of the sion zone
NA	Perso	nal Breathing Zone Monitoring on personnel conducting contaminated dust and soil

Digitally photograph each sample location and at any place field sampling personnel





\square		Electronically file photo files into the on-site database
\square		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
	\square	Logbook
	\square	On-site computer database
\square		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
. 🗹		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental
		Samples
		Review and disseminate sample results as received from the laboratories to Project
		Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database
		• • • •



Project: 3rd West Sub Station	Date: <u>07/17/12</u>		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By: Justin Kargis	Title:		

		In Compliance	Out of Compliance] N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			X	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		10	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			,
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	*
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Newman washed out the last two loads of native material in the morning. They kept all material wet as it was being loaded and wrapped the soil in plastic for transport.

CVE line crew performed finish work on the buss in bay 1. They began preparing equipment for transfer from the yard.

Weather was warm, humid and mostly cloudy in the afternoon with high temperatures around 90.



determined necessary



3^{RR} WEST SUBSTATION REMEDIATION PROJECT HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DAILY CHECKLIST
DATE	:	07/18/12
Ca	neral	
		area Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
117	•	activities for the day
NA		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
		to commencement of any site work. Instruction, review hazards, health & safety issues
Tet a		and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA NA		Complete Employee Meeting Record Form B (where applicable)
NA NA	\	Document required Respirator Training completion with Form H
NA .		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA .	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		NA Decontamination unit is working properly.
		NA Workers are using decontamination unit as instructed.
		NA Workers use personal protective equipment properly.
		The mollions and personal provides a squarement property.
\square		Set air samples at cardinal compass points around exclusion zone. Check
_		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
\square		Review sign-in/sign-out log throughout and at the end of the workday.
$\overline{\square}$		Secure the site at the end of the workday
-		The same same same same same was the same same same same same same same sam
<u>Sa</u>	m p lin g	
NA	Soil C	onfirmation sampling for any newly excavated areas
NA	2	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
N.A	A	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and so removal
N		Digitally photograph each sample location and at any place field sampling personnel





☑	Electronically file photo files into the on-site database
Ø	Complete Field Documentation
\square	Field Sample Data Sheets (FSDS)
\square	Logbook
\square	On-site computer database
<u>√</u>	Label each sample media with a unique number
` 	Seal sample(s) in zip lock plastic bags
☑	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 07/18/12					
Location:3rd West, 1st South, SLC	Job Number:					
Survey Conducted By: Justin Kargis	Title:					

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.	16		х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		ð	х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	19-		x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.		4	x	,
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.	(8.1		x	*
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	X			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	
Standard	Title				Corrective Action Taken and Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х	9		
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	-		x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Newman continued working on delivering and compacting road base around yard.

CVE line crew performed housekeeping duties and continued preparing to remove equipment.

Weather was warm, humid and partly cloudy with temperatures in the mid 90's.



ΝA

determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE	:	07/19	/12
	neral	maa II	calth and Cafaty Inspection
			ealth and Safety Inspection
NA	L		www and if necessary update Activity Hazard Analyses (AHA) based on planned site
NA		Safety to cor	ties for the day y Planning or "Tailgate" mandatory meeting for all employees and contractors prior mmencement of any site work. Instruction, review hazards, health & safety issues ny modifications to the CSHASP
NA			azard and safety instruction for all first time employees, contractors or visitors
NA			olete Employee Meeting Record Form B (where applicable)
NA			ment required Respirator Training completion with Form H
NA		Reco	rd times and numbers of dump trucks and trailers as they leave the site with minated material.
NA		Confi mana	rm return of waste material manifest documents for each load with site
NA	Compl		CSHASP Forms (for applicable activities planned for that day)
	NA		Illness/Injury Report Form A
	NA		Site-Specific Training Record Form C
	NA		Hot Work Permit Form D
	NA		Trench/Evacuation Permit Form E
	NA		Combined Space Entry Permit From F
•			Exclusion zone operations are practiced as instructed.
		NA	Decontamination unit is working properly.
		NA	Workers are using decontamination unit as instructed.
		NA	Workers use personal protective equipment properly.
✓			r samples at cardinal compass points around exclusion zone. Check ghout the day to ensure proper operation.
			rve control measures for dust and fugitive materials i.e. watering excavation and track out prevention.
☑			ew sign-in/sign-out log throughout and at the end of the workday. The the site at the end of the workday
<u>Sa</u>	mpling		
NA	Soil C	onfirm	nation sampling for any newly excavated areas
NA	5011 0	Statio	onary Air Monitoring during contaminated soil removal around the perimeter of the sion zone
NA	A		onal Breathing Zone Monitoring on personnel conducting contaminated dust and soil

Digitally photograph each sample location and at any place field sampling personnel





\square	Electronically file photo files into the on-site database
\square	Complete Field Documentation
$\overline{\mathbf{Q}}$	Field Sample Data Sheets (FSDS)
$\overline{\mathbf{Q}}$	Logbook
$\overline{\mathbf{Q}}$	On-site computer database
	Label each sample media with a unique number
☑	Seal sample(s) in zip lock plastic bags
☑	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental
	Samples
	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
\square	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>07/19/12</u>
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By:	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			x	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	3.
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			i
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			,
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х	E.		4.
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	х	2		
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Newman dug area for oil containment pad along the west wall. They temporarily uncovered small amounts of native material about 5 inches below the surface material. This excavation was kept wet and capped with clean material. They also continued delivering and compacting road base around yard. CVE line crew disconnected service line to office trailer and returned rental lifts.

Weather was sunny in the morning but became cloudy and breezy in the afternoon with high temperatures in the low 90s and not precipitation.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		_	BILLET CARE	CILLIS -	
DATE:_		07/20/12			
Can	1		1		
General NAV		rea Health and Safet	ty Inspection		
NA NA				Hazard Analyses (A	HA) based on planned site
142 k		activities for the day		Trazara Triidiy 505 (Tr	int) based on planned site
NA		_		meeting for all emp	loyees and contractors prior
- 11-		•			rds, health & safety issues
•		and any modificatio		·	· · · · · · · · · · · · · · · · · · ·
. N A		•		first time employees.	, contractors or visitors
NA		Complete Employee	e Meeting Record For	rm B (where applical	ole)
NA		Document required	Respirator Training	completion with Forr	n H
NA		Record times and no	umbers of dump trucl	ks and trailers as they	leave the site with
		contaminated mater			
NA		Confirm return of w	aste material manife	st documents for eac	h load with site
		manager.			
			ms (for applicable ac	tivities planned for the	nat day)
	NA -		y Report Form A		
	NA		Training Record Fo	rm C	·
	NA.		ermit Form D	C	<u> </u>
	NA NA		cuation Permit Form		•
Γ	NA		pace Entry Permit Frone operations are practions		•
			ation unit is working		
			using decontaminati		
			e personal protective		
		1471 WORKETS USC	personal protective	equipment property.	
☑		Set air samples at ca	ardinal compass poin	ts around exclusion a	zone. Check
			to ensure proper oper		
			asures for dust and fu		watering excavation
		sites and track out p			J
		Review sign-in/sigr	n-out log throughout	and at the end of the	workday.
☑		Secure the site at th	e end of the workday	,	
			•		
<u>Sam</u>	pling				
NA S	Soil Co	onfirmation sampling	g for any newly exca	vated areas	
NA					around the perimeter of the
		exclusion zone	ttoring during contain		p = 1 o : u
NA			Zone Monitoring on	personnel conductin	g contaminated dust and soil
		removal			
NA			h each sample location	on and at any place f	ield sampling personnel
		determined necessa	-		





\square		Electronically file photo files into the on-site database
		Complete Field Documentation
	\square	Field Sample Data Sheets (FSDS)
		Logbook
		On-site computer database
		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
☑		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
\square		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
V		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 07/20/12		
Location: 3rd West, 1st South, SLC	Job Number:		
Survey Conducted By:	Title:		

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	• Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.		w.	х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	и		х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	,
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	x			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

Standard		In Compliance	In Compliance Ont of Compliance Corrective Action Date	N/A	Compating Astion Taken and
	Title				
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.	8		x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			х	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х	-		
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

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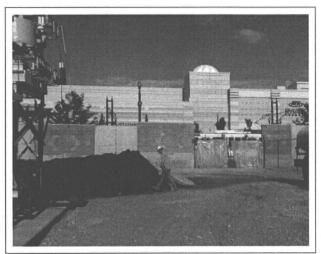
Standard		In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
	Title				
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x		×	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			х	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	х	- 1		
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.		=	x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Newman excavated area near east gate so that ramp into yard was eliminated and the area was banked contiguous with the rest of the east side. They vacuumed out vaults and worked on finish grading around the yard.

CVE line crew worked on housekeeping and clean up tasks.

Weather was warm, humid and dry with afternoon clouds and temperatures in the mid 90's.



РНОТО 1



PHOTO 2



РНОТО 3

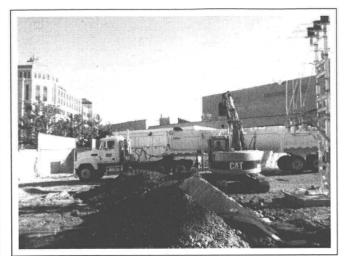
R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 07/16/12	FILE:	

SITE PHOTOGRAPHS

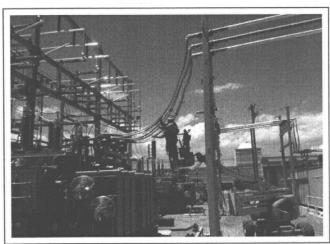




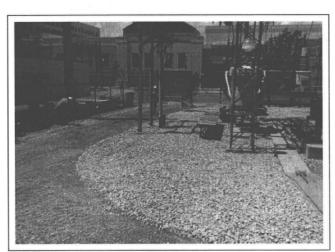
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.

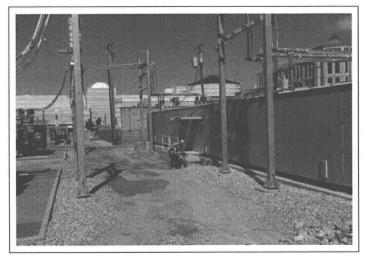
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 07/17/12	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.

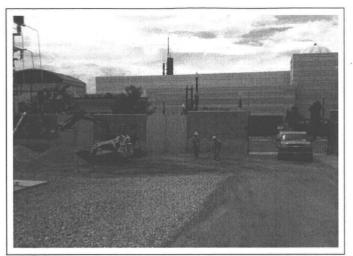
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 07/18/12	FILE:	

SITE PHOTOGRAPHS

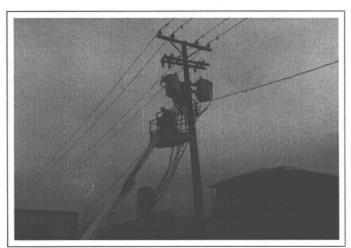




РНОТО 1



PHOTO 2



РНОТО 3

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 07/19/12	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3

R & Renvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	DCR					
DRAWN BY: JMK	DATE 07/20/12	FILE:					

SITE PHOTOGRAPHS



PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Monday, July 16, 2012 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO. : Crew Start Time: 6:55 Crew Stop Time: 17:20 Tot Hrs mns: 6:42 17:25 FCR Start Time: FCR Stop Time: Tot Hrs mns: 10:43 Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 68 degrees in AM, 90 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew installed new jumpers (2) for the north jumpers to the switchgear. The first jumpers are not symetrical and needed to be redone. They cleaned up the staging compound and removed the foundations that were under the south 46 kV UG structure. CVE Fab Crew foreman came by long enough to grout the middle porch on the switchgear before it gets backfilled. CVE Electrician removed the grounding boxes from the north leg of the Snarr DE structure and worked on lighting conductors. Electrician also performed housekeeping in the switchgear and control building. Newman is back on site today, backfilled the west porch for the switchgear, backfilled along the transition cable trench from the roadway down to the 46 kV yard, and backfilled the yard lighting conduit trench in the 46 kV yard. They were planning on hauling material to Clean Harbors today but was not able to make connections with Clean Harbors to authorize delivery. Hopefully on Tuesday, 7/17. CVE Line Crew = 4, CVE Fab Crew = 1, CVE Electrical Crew = 1, Newman = 4, R&R = 1, Wilding = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Al Swinski - 0642 Dispatcher logout, name and time: Bob Gentry - 1725 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: **DELAYS OR LOST TIME ENCOUNTERED:** EQUIPMENT (working, delivered, idle): CVE Line Crew: Portable tojlet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

Rocky Mountain Power

OSHA Recordable Safety Incidents:

Russ Johnson

Field Construction Representative

Reported by:

Time:

PROJECT NAME:	Third West Sub - F	Rebuild	DATE: Tuesday, July 17, 2012							
PO & Work Order NO. :	3000078050 / 100	035803	MAIN CONTRACTO	OR : Cache Valle	ey Electric					
Crew Start Time:	6:50	Crew Stop Time:	17:05	Tot Hrs mns:	10:15					
FCR Start Time:	6:50	FCR Stop Time:	17:10	Tot Hrs mns:	10:20					
Use military time format 00:00	0.00	TORROTOP TIMO.	17.10	1001110111101	10.20					
			•							
WEATHER CONDITIONS:		Sunny - 66 degre	es in AM , 90 degrees	s in PM	 -					
DESCRIPTION: (work perform	ed, general commen	ts, instructions to	ontractor, # of crew	members onsite	.)					
R&R set up four monitors. CVE Line excess CVE material to the CVE shot two trncks to Clean Harbors today. To the 46 kV yard and along the cable CVE Electrical Crew = 0, Newman =	pp. CVE Fab Crew is not That makes 301 total trip e trench and slope on the	t on site today. CVE E is to Clean Harbors. N e east side of the 46 k'	lectrical crew is not on s ewman also spread yar	site today. Newman d finish rock along th	loaded out ne west side					
					· ·					
IF WORKING IN ENERGIZED S Dispatcher login, name and time:				· · · · · · · · · · · · · · · · · · ·						
Dispatcher logout, name and time:	Al Swinski - 0650 Bob Gentry - 1710									
DISCREPANCIES:	Dob Genay - 17 10	I	MMEDIATE CORRE	CTIVE ACTION T	KEN.					
		.	<u> </u>	<u> </u>						
	·			,,						
DELAYS OR LOST TIME ENCO	UNTERED:									
		•								
·										
EQUIPMENT (working, delivered CVE Line Crew: Portable toilet (2), forki	lift, 1 dumpster, office trailer	r, conex , exclusion zone	conex (2), tool trailer. Pick	kup, JLG (1), tool traile	r. Newman:					
trachoe (1), bobcat, mini-ex, water truck	, compactor, backhoe.									
1										
OSHA Recordable Safety Incid	ents:	 	Repor	rted by:						
The state of the s			1,300							
										

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PROJECT NAME:	Third West	Sub - Rebuild	DATE : Wednesday, July 18, 2012							
PO & Work Order NO. :	3000078050) / 10035803	MAIN CONTRACTOR	: Cache Valley Electric						
Crew Start Time:	6:55	Crew Stop Time:	16:45	Tot Hrs mns: 9:50						
FCR Start Time:	6:50	FCR Stop Time:	16:55	Tot Hrs mns: 10:05						
Use military time format 00:00	0.00									
WEATHER CONDITIONS:	. ————	Sunny - 69 degre	ees In AM, 95 degrees in I	P M						
DESCRIPTION: (work perform R&R set up four monitors. CVE Li area south of the new control buildi CVE Electrical crew is not on site to porches on the switchgear, and pla CVE Fab Crew = 0, CVE Electrica	ne Crew demobed ng and removed the oday. Nevr man is w ced road finish rock	CVE materials to CVE shop are temporary masonite flooring or yard finish rock in a on the roadway from the sw	and cleaned up staging area g in the switchgear. CVE Fa the 46 kV yard, backfilled ar vitchgear west to the iron gat	n, removed old gates from ab Crew is not on site today. ound the west and center						
		•								
		•	•	[
•			•	•						
				1						
	200	<u> </u>								
IF WORKING IN ENERGIZED		<u> </u>								
Dispatcher login, name and time:	Al Swinski 0650									
Dispatcher logout, name and time:	Bob Gentry 165		MACDIATE CODDECTIV							
DISCREPANCIES:			MMEDIATE CORRECTIV	VE ACTION TAKEN:						
•										
	-									
	<u> </u>		· 							
										
										
DELAYS OR LOST TIME ENC	OUNTERED:									
		•								
EQUIPMENT (working, delive	red, idle):									
CVE Line Crew: Portable toilet (2), for			conex (2), tool trailer, Pickup,	JLG (1), tool trailer. Newman:						
trachoe (1), bobcat, mini-ex, water truc	ck, compactor, backho	oe.								
				·						
•	·									
OSHA Recordable Safety Inci	dents:		Reported	by: Time:						
	·									
L										
•				·						

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PROJECT NAME:	Third West S	ub - Rebuild	DATE: Thursday, July 19, 2011						
PO & Work Order NO. :	3000078050	/ 10035803	MAIN CONTRA	CTOR : Cache	Valley Electric				
Crew Start Time:	8:00	Crew Stop Time:	16:10	Tot Hrs m	nns:8:10				
FCR Start Time:	6:42	FCR Stop Time:	16:35	Tot Hrs m	nns: 9:53				
Use military time format 00:0	0	_							
WEATHER CONDITIONS:		Sunny - 69 degre	es i n AM , 95 degr	ees in PM					
DESCRIPTION: (work per									
R&R set up four monitors. CV service to the office trailer and today. CVE Electrical crew is no They excavated for, placed get Line Crew = 3, CVE Fab Crew	mobed compactor, JLG not on site today. Newmotextile fabric and placed	manlift, forklift, and mini-ex to an is working on yard finish to I yard finish rock in the deter	o rental companies. rock and road finish ntion area along the	CVE Fab Crew is rock in the 46 kV a	not on site nd 138 kV yards.				
•									
					·				
IF WORKING IN ENERGIZI	ED SUBSTATION:								
Dispatcher login, name and tim	e: Al Swinski 0642								
Dispatcher logout name and til	me: Bob Gentry 163								
DISCREPANCIES:		<u> </u>	MMEDIATE COR	RECTIVE ACTIO	N TAKEN:				
<u>-</u>			· · · · · · · · · · · · · · · · · · ·						
·	•								
	•				}				
									
L DELAYS OR LOST TIME E	NCOUNTERED:								
	,		-						
EQUIPMENT (working, del	livered, idle):		· -						
CVE Line Crew: Portable toilet, for compactor, backhoe.		er, conex , tool trailer, Pickup, J	LG. Newman: tracho	e, bobcat, mini-ex , w	ater truck,				
OSHA Recordable Safety	Incidents:		Re	p orted by:	Time:				
	 								

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PROJECT NAME:	Third West Sub - R	ebuild	DATE : Fric	day, July 20, 2012
PO & Work Order NO. :	3000078050 / 1003	35803	MAIN CONTRACTOR:	Cache Valley Electri
Crew Start Time:	6:55	Crew Stop Time:	16:00	Tot Hrs mns: 9:05
FCR Start Time:	6:45	FCR Stop Time:	17:10	Tot Hrs mns: 10:25
Use military time format 00:00	;	_		
WEATHER CONDITIONS:		Sunny - 70 degre	es In AM, 95 degrees in P	M
DESCRIPTION: (work performe R&R set up four monitors. CVE Line Fab Crew is not on site today. CVE E 46 kV and 138 kV yards. CVE Line C	Crew cleaned out office Electrical crew is not on s	trailer, placed sand in ite today. Newman is	n transition cable trench from working on yard finish rock	138 yard to 46 yard. CV and road finish rock in the
IF WORKING IN ENERGIZED SU Dispatcher login, name and time:	JBSTATION: Al Swinski 0645			
Dispatcher logout, name and time:	Manny LuHaun 1714			
DISCREPANCIES:			MMEDIATE CORRECTIV	E ACTION TAKEN:
		ļ		. ,
}				
	·			
DELAYS OR LOST TIME ENCO	UNTERED:		·· ······	· · · ·
EQUIPMENT (working, delivere CVE Line Crew: Portable toilet , forklift, truck, compactor, backhoe.		nex , tool trailer, Pickup	, JLG, minj-ex. Newman: trach	loe (1), bobcat, mini-ex , wat
OSHA Recordable Safety Incide	ents:		Reported	by: Time:
				
Pooley Mountain	Davis	_	Nua tahaan	•

Rocky Mountain Power

Russ Johnson

Field Construction Representative



July 18, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 240302-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 240302-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely.

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 240302-1

Client:

Client Project Number / P.O.:

R & R Environmental None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

July 17, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

July 18, 2012

Client ID Number	Lab ID Nur	mber	Area Analyzed	Air Volume	Number of Asbestos	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			,	Sampled	Structures Detected	ound a sur		
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-071612 E	EM	892801	0.1000	560	ND	0.0069	BAS	BAS
3W-071612 N	EM	892802	0.1000	560	ND	0.0069	BAS	BAS
3W-071612 W	EM	892803	0.1000	560	ND	0.0069	BAS	BAS
3W-071612 S	EM	892804	0.1000	558	ND	0.0069	BAS	BAS

NA = Not Analyzed ND = None Detected Filter Material = Mixed Cellulose Ester

BAS = Below Analytical Sensitivity

Filter Diameter = 25 mm

Average Grid Opening in mm² = 0.010

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 7 18 12 83cm Due Time:___

6801 Logan St. Denver, CO 60216 • Ph: 323 864-1966 • Fax 303-477-4276 • Toll Free: 866 RESI-ENV

RES 240302

		•		Pager: 303-806 ICE TO:_(IF			NT)									CC	ONTAC	TIN	FORI	MATH	ON:		1990 1904 - J		
Company: LER Fm	vironmental		Company:	<u> </u>			/_		Conte	ct: (ave	Q.	ı,	(10-					Contac		J. 11.				
	2000 S #Z		Address:						Phon				254	ucy.					Phone:						
Sondy U									Fax										Fex:						
										ager:				103	5				Cell/pa	ger					
Project Number and/or P.O.									Final	Data D															
Project Description/Location	35 West Sub- (2	Mb							<u>L</u>	de	vel	2 r	ren	מים	,ω.	<u>~</u>									
ASBESTOS LAB	DRATORY HOURS: Wee	ekdavs: 7am - 7pm					8,5	RE	QUE	STE) AN	IALY	SIS		14 P	st ye	10 to 1	VAL	ID N	ATRI	X CO	DES	LA	B NOTES:	<u> </u>
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		PCM = 2hr, TEM = Bhr.)	·]			1	1 (ļ]]	- -		+ $+$		1	C)ust	: D		Pa	int = P			
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RCRA 8 / Metals &	Welding Rusi	H 5 day10 day	reguired for		팋	Quant,	} }	}	Scan	ĺ	11	돭		11	Ę		Drinkin	g Wa				Vater = WW	-		
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	LABORATORY HOURS				녛	2, K	1_1	1			1 1	อ	mification	Quantification	ğ	OR OTHER NOTES	ì		1 1		ĺ		ļ		
E.coll 0157:H7, Co		24 hr2 Day			9	24 G	OSHA		Fume,	1	11	+	ficet	[E		5	1		ļļ		1	l			
•	a, E.coll, APC, Y & M	48 Hr3-5 Da		y 5 Day	6	± 0,		Respirable	<u>_</u>	- [1+1	ايا	밀	1		ğ	(1		}				
Mold	en e				[-	34 15	7400B,	dsa	Welding	ᇎᅧᇸ		ĝ	σį	5 5	1 8	ואַ		1)	}	}		_
"Turnaround times es	tablish a laboratory priority, sub	bisct to laboratory volume and irs, weekends and hbiideye.**	are not allarantood.	Additional laes	[윤	₹ je			à	Ę ;	[동]	- 18 H	5			INTIALS	Ę	1.			}		1		
Special lustruction	<u>dak Politika e febi zit bakita</u>		AND THE PROPERTY	er utusa (k. 9.)	뒿	AHERA ant, Mi	7400A.	· Total.	[달	S	18		7	ă.	- +	S.	§	ge	튙		ļ		-		95.
Special matraction	5 .				S	- A	1 . [25	3 8	8	g 8	E.coli: +/	S.aure	6 (절	<u> </u>	mple Volume	N X	Containers	Dat	te	Time		r nber (Labo Use Only)	ratory
Client sample II) number	Sample ID's must be urilge	(a)	erika ingkapatèn Katamatakan	[5]	Semi	S.	DUST	RCRA 8,	ORGANICS - METH	<u> [m]</u>	VIICRO			- ≥	SAMPLER'S	Sam (1)	Matrix Code	8	Collection of the collection o		Collected)
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2 360031612						1		32 3						13	1/2	5 181 v	560	1				LA ENANE	-	<u>ر دی ۔ </u>	
3 360-07161	7 (2)		<u>. erre la </u>	<u> </u>	-	-	+			+	11			++	+	-	560	+	1	+			1 2 2 2 2 2		<u></u>
4 30-071612		aa sa 2532 see 6 155	1449401	<u> </u>			13	1 10			11			11	1	100	558	#		1				ر ر	
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Contact	Phone E	mail Fax Date	Time	Init	ials	Cc	ontact			P	hone	Emi	il/Fa	X			Date				Time		Initi	als	
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Cr = Tremolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

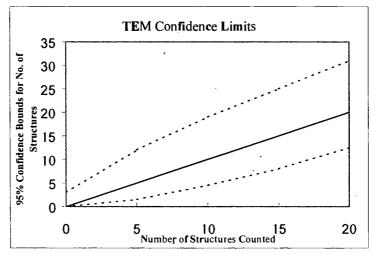
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

JB

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KC) 10KX
Grid openirig area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	REE
Sample Type (A=Air, D=Dust):	
Air volume (L) or dust area (cm2)	\$60°
Date received by lab	
Lab Job Number:	240%2
Lab Sample Number:	34580

	1364
Analysis date	1 17/12
Method (D=Direct, I=Indirect, IA=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyz
Scope Alignment	Date Analyze

Analyzed by

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class		,,		1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	63-1	ND				Par	A	70% in f	nt	/C	% deons			
	F3-1	. M				Pw	B	70 Joint	mf	10	Lebrs			
	£3-6	ND				<u></u>								
	03-6	M							B	7/	7/12			
	B3-6	M				, 		7	7		Y .			
B	112-6	1/2			ļ <u>.</u>			/				l		
	62-6	M					.1							
	FZ-6	M										·		
	EZ-6	M		-										
	CZ-6	M				:								

Reservoirs Environmentai, Inc. TEM Asbestos Structure Count

	REL
Laboratory name:	RELIBER
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.01154
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	HRACH !!
Sample Type (A=Alr, D=Dust):	A. A.
Air yolume (L) or dust area (cm2)	56011
Date received by lab	
Lab Job Number:	740302
Lab Sample Number:	\$42802

Analyzed by	158
Analysis date	7/17/12
Method (D=Dlrect, l=Indirect, IA=Indlrect, ashed)	P
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):				
Fraction of primary filler used				
Total Resuspension Volume (mi)				
Volume Applied to secondary filter (ml)				

Grid	Grkl Opening	Structure	No. of St	ructures	Dimer	imensions Identification		Mineral Class			1 = yes, blank = no		= no	
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K3-1	ND												
	H3	ND			P	\triangle	X =	Ofunh	ant.		70/ de bu	5		
	613-1	ND			72	2	3 8	Dolah	ut	7	of Jebr	3		
	1=3-1	ND				<u> </u>				<u>/</u>				
	F4-4	ND							13	2/1	7/12			
B	613-6	M								/	/			
	F3-6	M					,							
	E3-6	\sim					·							
	C3-6	M				:					·			
	133-6	M												

Reservoirs Environmental, Inc. TEM Astrestos Structure Count

	the Bound and the Committee of the Commi
Laboratory name:	REL
Laboratory Harrie.	
	JEOL 100 CX N (S)
Instrument	JEOL 100 CX N 7S
	at a more become a long to the first of the
Voltage (KV)	100 KV
	the control of the control of the control of the control of
Magnification	20KX) 10KX
Grid opening area	
(mm2)	0.011
(111112)	
0 - 1 - 41 -	0.28 um
Scale: 1L=	To the ball of the
ľ	0.056 unt
Scale: 1D =	0.058 unt
Primary filter area	SALTES CHARGE PRINCIPAL AND FOR THE PRINCIPAL
(mm2)	385
Secondary Filter Area	
(mm2)	
· · · · · · · · · · · · · · · · · · ·	
los Turo	
[QA Type	[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]

Client :	2.2
Sample Type (A=Air, D≕Dust):	
Air volume (L) or dust area (cm2)	500
Data received by lab	
Lab Job Number	74062
Lab Sample Numben	844805

Analyzed by	JB
Analysis date	7/17/12
Method (D=Dlrect, l=Indirect, IA=Indirect, ashed)	J. D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps C	Only):
Fraction of primery filter used	
Total Resuspension Volume (mt)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nslons	tdentification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Wkith		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-1	ND												
	64-1	ND			.1	Pnd	b A	90% in 6	mil	5	he akbys			
	FUI	ND			•	Pac	3	70 % in 1	mf	5	& defins			
	E4-1	5				1			1					
	c4-1	M			·	-			B	7/18	12			
B	644	M								7./				
	F4-4	M					,							
	E4-4	M)												
	C4-4	M					•				·			
	34.4	W												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
,	The literal Lines
Instrument	JEOL 100 CX N (S)
Voltage (KV)	100 KV
Magnification	20KX) 10KX
Grid opening area (mm2)	0.g11
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	P.P.
Sample Type (A=Alr, D=Dust):	a A
Air volume (L) or dust area (cm2)	558
Date received by lab	2 7/2
Lab Job Number:	7240307
Lab Sample Number:	892804

Lab Sample Number:	897804
F-Factor Calculation (Indirect F	reps Only):
Fraction of primary filter used	
Total Resuspension Volums (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	7/17/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	P
Counting rules (ISO, AHERA, ASTM)	AH.
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
	Ond Opening	Туре	Primary	Total	Length	Wkith	i	Amphibole	_ c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	64-4	ND												
	F4-4	ND			Z		A '	80 him	Int	ح	- 70/ a	ebu	>	
	E4-4				Fa	2	B	0 % int	nt	S	-7% de	bus		
	E3-3	NP								4	/			
	C3-3	MD							SP	7/	8/2			
B	F3-1	M		٠						/.				
	131	M					,	/.						
	C3-1	M											_	
	F3-6	ND												
	63-10	M									_			

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



July 19, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 240405-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. Is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory Is currently proficient In both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 240405-1 Is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except In full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely.

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 10189e-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 240405-1

Client:

R & R Environmental

None Given

Client Project Number / P.O.: Client Project Description:

3rd West Sub - RMP

Date Samples Received:

July 18, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

July 18, 2012

Client ID Number	Lạb ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-071712 E	EM 893011	0.0900	939	ND	0.0046	BAS	BAS
.3W-071712 N	EM 893012	0.0900	939	ND	0.0046	BAS	BAS
3W-071712 W	EM 893013	0.0900	939	ND	0.0046	BAS	BAS
3W-071712 S	EM 893014	0.0900	939	ND	0.0046	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity
Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 7 · (9 · 12

Due Time: 845

REILAB RESERVOITS Environmental, Inc. sao i Logan 81. Denver, CO 80216 • Ph; 303 894-1949 • Fax 303 477-4276 • Toll Free :869 RESI-ENV

RES 240405

Pager : 303-509-2098

	INVOIC	ETO: (IF	DIFF	EREN	(TV								C	ONTAC	T IN	FOR	MATIOn	:			
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Project Number and/or P.O. #: 2 30 West Sub - RMP						F	naí Qa	ta Deliva								_					
Project DescriptionA.ocation:								day	<u> ૧</u>	M	envir	٥. رړ	<u> </u>								
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MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6p	m		8	8 50 8 120	- 1	Met	ĺ	11		or Quantification	ig ig	On	SAMPLER'S INITIALS OR OTHER NOTES		1	1		1	┼		-
E.eoII O157:H7, Coliforms, S.aureus24 hr2 Day	3-5 Day			. 名:	4	Fume,	1	11	1 1	ું કું	Quantification Quantification	ig c	Ĕ	1		1 1					_
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"Tumaround times establish a laboratory priority, subject to laboratory volume and	are not suaranteed. A	dditional fees	report	Ricro-vac,	5 3	- Analyte(s)	ORGANICS - METH	Salmonella: +/- E.cofi O157:H7;	Listeria: +/-		÷ +	১ 🛓	Ę	g	1	1 1		1			_
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

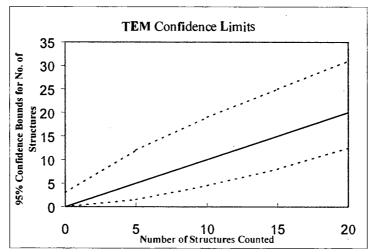
1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard

= Tremolite

Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N 🔊
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D=	- 0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

R+R
A
939
7/18/12
240405
8 930 11

F-Factor Calculation (Indirect Pr	reps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	1K
Analysis date	7/18/12
Method (D=Direct, l=Indlrect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class]	1 = yes, blank = no		
		Туре	Primary	Total	Length	Width	Identinoation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	Q4-6	M												
	F4-6	NO				Pre	p A 8	of mac	5	8 l	ebis			
	24-6	W				, 								
	C4-6	M				Re	136%	whom 5,	1 de	bino				
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B	63-1	M												
	F3-1	`M_												
	231	\sim			-		,				•			
	C3~1	M									·			

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	GOKS 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R+R
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	939
Date received by lab	7/18/12
Lab Job Number:	240405
Lab Sample Number:	8 930 12

-1K
7/18/12
Ď
AH
Month Analyzed
Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary fitter (mf)	

Grkl	Grid Opening	Stricture	No. of St	mctures	Dimensions		Dimensions Identification		Mineral Class				1 = yes, blank = no		
		Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
A	643	M													
	F43	M			Pro	r A	- 80×11	Hay 58	dela	'n					
	84-3	M													
	C453	M			Ro	r B	A								
	134-3	M			-										
3	13-3	ND													
	95-3	M													
	F5.3	M											,	٠	
	E5-3	\sim													

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	⊘0KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

R+R
4
939
7/18/12
240405
893013

F-Factor Calculation (Indirect Pr	reps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	-1K
Analysis date	7/18/12
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	
Counting rules	A H
(ISO, AHERA, ASTM)	# HT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= <u>no</u>
Gild		Туре	Primaiy	Total	Length	Width	·	Amphibole	С	NAM	Sketch/Comments	1	Photo	EDS_
A	94-4	M												
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	84-4	M												
	C4-4	ND			B	ey	12-11							_
7/18	24 -4	NP												
3	F3-4	M												
	23-4	M												_
	C3-4	M												_
	33-6	M				·								

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instmment	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area	363
(mm2) QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air yolume (L) or dust area (cm2)	939
Date received by lab	7/18/12
Lab Job Number:	240405
Lab Sample Number:	8 930 14

Fraction of primary filter used	
Total Resuspension Volume (ml)	· · · · · · · · · · · · · · · · · · ·
Voluma Applied to secondary filter (ml)	

Analyzed by	-1K
Analysis date	7/18/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	Ď
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture	No. of St	ructures	Dime	nsions Identification		Mineral Class		· · · · · · · · · · · · · · · · · · ·		1 = yes, blank = no		= no
		Type	Primary	Total	Length	Width		Amohibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	943	M												
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	B4-3	M												
B	846	M						•						
	Cyl	NO							•					
	B46	(M)								ŝ				
	A4-6	M							,					

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\# \ Asbestos \ Structures}{\# \ GO \ Counted} \ x \frac{1}{Volume \ (L)} x \frac{Eff. \ Filter \ Area \ (mm^2)}{A \ verage \ GO \ area \ (mm^2)} x \frac{1L}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# Asbestos structures}{Area Analyzed (mm^2)}$

GO = TEM grid opening



July 20, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 240485-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 240485-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVI.AP Lab Code 101898-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 240485-1

Client:

R&R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

July 19, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

July 20, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number		Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-071812 E	EM 8	93202	0.0900	914	ND	0.0047	BAS	BAS
3W-071812 N	EM 8	93203	0.0900	914	ND	0.0047	BAS	BAS
3W-071812 W	EM 8	93204	0.0900	914	ND	0.0047	BAS	BAS
3W-071812 S	EM 8	93205	0.0900	912	ND	0.0047	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Effective Filter Area = 385 sq mm



Due Date: 7 20 12

Due Time: 845

9

RED LAMS RESERVEITS ENVIRONMENTAL, INC.. 5801 Logat St Denver, CO 50216 • Pir. 303 984-1986 • Fax 303-177-4276 • Tdl Fise : 868 RESI-ENV

RES 240485

INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION: KER Environmental Cwnpany Contact: Contact: Address: hone: 47 W 90005 #2 Call/pagar Project Number and/or P.O. #: Final Data Daliversbia Email Address: Project Dosoipean/Location: 300 West Sub - CAND **REQUESTED ANALYSIS** LAB NOTES: ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm **VALID MATRIX CODES** PLM / PCM /(TEM RUSH (Same Day) & PRIORITY (Next Dav) STANDARD Bulk = B (Rusty PCM = 2hr, TEM = 6hr.) Paint = P Dust = D CHEMISTRY LABORATORY HOURS: Weekdays: Bam - 5pm Wipe = W Sol = S ____RUSH ____ 24 hr. ___ 3-5 Day Motal(s) / Dust Swab = SW F = Food Quant **Prior natification Is RCRA 8 / Metals & Wetding Drinking Water = DW | Waste Water = WW Lang report, Point Count RUSH ___ 5 day ___ 10 day required for RUSH Fume Scan / TCLP O = Other turnarounds.** Level II, 7402, ISO, +/-, ro-vac, ISO-Indirect Pops Organics 24 hr. ___ 3 day ___ S Day "ASTM E1792 approved wipo media Only" MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm METALS - Analyte(s) RCRA 8, TCLP, Weding Fume, OSHA E.coll O157:H7, Coliforms, Saureus 24 hr. 2 Day 3-5 Day Satmonella, Listerla, E.coli, APC, Y & M 48 Hr. _3-5 Day RUSH_ _24 Hr __ Mold 48 Hr Short report, "Turnaround timas estabdsh a laboratory priority, subject to laboratory voluma and are not guaranteed. Additional fees - AHERA apply for afterhours, wockenda and holidays.** Matrix Code Special Instructions; EM Number (Laboratory Date Timo Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) hh/mm a/p mm/dd/yy 914 71812 36071812E 2W-071817-N 7 3W-071812W 914 4 5 36 O7182 S

Number of samples received:

(Additional samples shall be listed on attached long form.)

NOTE: REI win analyze incoming samples basis upportion received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following eamples for requested analysis as indicated on this Chalp of Custody shall constitute agrant analysis agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharpe.

Relinqui	shed By:	hat you	Fed	Ēx	*	Date/Time:	7/18/12	Sample Cor	ndition: Oh Ice	Sealed Inlact
Laborato Received 8	ory Use Only	I dunte	Date/Tin	ne:	7.19	12 EUE	mer FeelEx	Temp. (F ⁶)	Yes / No	Yes/No Yes No
Results:	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials
	Contact	Phone Email Fax	Date	Time	Initials	Contact	Phone Email Fax	Date	Time	Initials

7937 9220 U681

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type	Structure Types			
A = Amosite An = Anthophyllite	F = Fiber B = Bundle			
C = Chrysotile	C = Cluster			
Cr = Crocidolite T = Tremolite	M = Matrix			

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

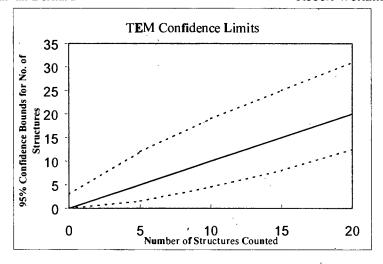
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX ti (s
mstrument	SEOF 100 CV II IS
Voltage (XV)	100 KV
Magnification	(20KX) 10KX
Grid opening area	
(mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area	
(mm2)	385
Secondary Filter Area	
(mm2)	
QA Type	

Client:	Roll
Sample Type (A≔Air, D=Dust):	A
Air: volume (L) or dust area (cm2)	914
Date received by lab	7/19/17
Lab Job Number:	240485
Lab Sample Number:	893202

F-Factor Calculation (Indirect Preps Only):				
Fraction of primary filter used				
Total Resuspension Volume (ml)				
Volume Applied to secondary filter (ml)				

Analyzed by	JB
Analysis date	7/19/12
Method (D=Direct, i=Indirect, 1A=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Grid Opening St		No. of Structures		Dimensions		Identification	Mineral Class	<u> </u>]	1 = yes, blank = no		
J.10	one opening	Туре	Primary	Total	Lengtti	Width		Amphibole	С_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-4	ND												
	64-4	M			P	Δ	A 8	Donn 1	ru f	•	The Leber	چې		
	F4-4	M		; 	P	5 1	3	20 chunt	inf		of less	r		
	E4-4	MD							4					
	C4-4	MD							6	2/1	2/12			
<u>B</u>	44-4	W									/			
·	GHY			,				. (
	F4-4	M												
	E4-4	M												

Reservoirs Environmentai, Inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale; 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area fmm2)	
QA Type	

Client :	Roll
Sample Tyoe (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	914
Date received by lab	7/19/17
Lab Job Number:	240485
Lab Sample Number:	893203

Analyzed by	<u> </u>				
Analysis date	7/19/12				
Method (D=Dfrect, l=Indirect, IA=Indirect, ashed)	D				
Counting rules (ISO, AHERA, ASTM)	ahera				
Grid storage location	Month Analyzed				
Scope Alignment	Date Analyzed				

F-Factor Calculation (Indirect Pre	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter	

Grid	Grid Opening	Stmcture	No. of St	ruchires	Dimer	nsions	Identification	Mineral Class				1 = yes, blank = no		= no
		Туре	Primary	Total	Length	Width		Amphibole	С_	NAM	Sketch/Comments	Sketch	Photo	EDS
H	K3-1	M		,										
	131	M				, P	1 A	70%	s hu	rf	3-5%	dels	us	
	63-1	M				D	B	800 mi	tw	£	3-5%	leh	v	
	F31	M)					<i>y</i>							
	E3-1	\mathcal{M}								8	7/17/12			
B	613-4	ND												
	F3-4	MD			İ									
	£3-4	M)												
	C3-4	W												

Reservoirs Environmental, Inc. TEM Asbestos Strueture Count

Laboratory name:	REI
Instrument	JEOL 100 CX N (S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	365
Secondary Filler Area (mm2)	
QA Type	

Client :	Roll				
Sample Type (A=Air, D≕Dust):	A				
Air volume (L) or dust area (cm2)	914				
Date received by lab	7/19/17				
Lab Job Number	240485				
Lab Sample Number	893204				

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filtsr (mi)	

Analyzed by	JB
Analysis date	7/19/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	islons	Identification	Mineral Class				1 = yes, blank = no		
Gilg	Grid Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-3	ND												
	64-3	MD			P		70	Lun ton	4	5-10	Lebus			
	F4-3	M			Pu	3	60	% in but		5-10	V delous		·	
·	E4-3	M							sh	. 7				
	c4-3	M						4	\$	7/1	7/12			
3	64-4	ND								7				
	FU-U	\mathcal{M}					·	,						
	EUU												, in the second	
	64-4	M			•									
													·	

Reservoirs Environmental, Inc. TEM Astestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	Rock					
Sampla Tyoe (A=Air, D=Dust):	A-					
Air volume (L) or dust area (cm2)	912					
Date received by lab	7/19/17					
Lab Job Numben	240485					
Lab Sample Number:	893205					

()

Analyzed by	JB
Analysis date	7/19/12
Method (D=Direct, !=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Voluma (ml)	
Voluma Applied to secondary litter (mi)	

Grid	Grld Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			1 = yes, blank = no			
			Primary	Total	Length	Width		Amphibole	_c_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H36	ND					1							
	63-6	M			2		4 8	Dolainh	ut	5	V. Jehrs			
	F36	M			P	20	3 60	of un fre	4	50	Johns			
	E3-6	M							h	7	1			
	C3-6	M							5	2/19/	12_			
3	E5-6	M		_				//		/ /				
	05-6	M						/						
	735-4	M												
	1346	M												
		- ()				,								

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meët the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Arca (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# Asbestos structures}{Area Analyzed (mm^2)}$

GO = TEM grid opening



July 24, 2012

Laboratory Code:

RES

Subcontract Number:

NA 1

Laboratory Report: Project # / P.O. #

RES 240694-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 240694-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101898-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 240694-1

Client:

ΕM

ΕM

R & R Environmental None Given

Client Project Number / P.O.: Client Project Description:

3rd West Sub - RMP

Date Samples Received:

July 23, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

July 23, 2012

893700

893701

Client ID Number	Lab ID Nun	mber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-072012 E	EM 8	89 3 698	NA	207	NA	Rejected	due to Uneven Filter L	oading
3W-072012 N	EM 8	89 3 699	0.1000	558	ND	0.0069	BAS	BAS

3W-072012 S NA = Not Analyzed

3W-072012 W

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

556

558

ND

0.0069

0.0069

Filter Diameter = 25 mm

0.1000

0.1000

Effective Filter Area = 385 sq mm

BAS

BAS

BAS

BAS

RES 240694

9801 Logan St Oenvar, CO 80218 • Ph; 303 984-1886 • Fax 303-477-4276 • Toll Free :886 RE8I-ENV

Pager	:	303-80a-2098	
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		INVOICE TO: (IF	DIF	FERE	NT)									CO	NTAC				ON:				
company: RER Embramental	Company:								and		Osk	بولله	4				Contac						
Address: UZ W 9000 5 #2	Address:						Pho										Phono:						
Soudy Ut. 50000														Fayc									
								pagan									CafVpa	gor.			,		
Project Number and for P.O. 19: Project Description Location: 3 CF WEST Sub-RMP							Fin	Oei Oei		PIO EMB			D m 4							<u></u>			
ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm					· ·	R	EQU	STEI	DAN	ALY	SIS				١	/AL	ID M	ATRIX	(CO	OES	LA	B NOTES	 }:
PLM / PCM (TEM) RUSH (Same Day) K PRIORITY (Next	-	NDARD				\Box			П	\Box	T	П	\prod		P	ir = ,	A		Bu	k= e			
(Rush PCM = 2lir, TEM = 6hr.)		 	.			- 1	-						11			ust =	_			int = P			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm			1 1		1					11			1 1			<u>oil =</u>				W = ec			
Metal(s) / Dust RUSH 24 hr3-5 Day		r notification Is		Quant	1 1 1		- 1		5	1	11		ŀ		ab =		 _		Food				
Fume Scan / TCLP 5 day10 day		Ired for RUSH	Ę				5			iğ l			Ş,	,	Drinking	vvat		DW Waste Water = WW O = Other		vater = WW			
Organics 24 hr 3 day5 Day	tur	narounds.** .	Point Co.	‡ åg]	sg .			Quantificat	1.		S S	5	"AST	4 E17	792 approved wipe r			media only**				
MICROBIOLOGY LABORATORY HOURS; Weekdays: 9am -	Spin		ا ۾ ا	<u>8</u> 8			Metals			ð	gi.	<u>اچ</u> ا	ğ			1	1		1				
E.coll O157:H7, Colifonns, S.aureus 24 hr2 Da			ğ	8, <u>è</u>	\$	Ì	rte(s) Welding Fume,		1 1	8	릙								- 1				
Salmonella, Listeria, E.coll, APC, Y & M48 Hr3-5			2 0	¥ 8	OSHA	ae	J. G	- }		+		Lean A		£		- 1	- 1			1			
Mold RUSH24 Hr	48 Hr	_3 Day5 Day	Long	age of	g		(S)	_	🛊	遺	9 8	2		ا ف						i			
**Turnaround timos establish a laboratory priority, subject to laboratory volumo at		antaed. Additional fees	ğ	2 E	240	ag	Analyte(s)	E 7	불	. 8	₽ 4	ع اي	5 Ž	<u> </u>	e		- 1						
appty for afterhours, weekends and toildays.	·•		5	≨ ` <u>\$</u>	7400A.	ţţ.	- Analy TCLP,		157		نيزاج	 			n lo	8	2	(i			
Special Instructions:			PLM - Short	TEM - AHE Semi-quant		DUST - Tc	METALS - RCRA 8, T	ORGANICS - METH	E.coli 0157:H7:	Aerobic	Coliforns		Mold	MILER	Sample Volume (L) / Area	Matrix Code	Containe	Date Collect	-	Time Collected	EM Nu	I mb er (Labo Uso Only)	oratory
Client sample ID number (Sample ID's must be uni	qije)		<u> </u>	-,-	ă	흑┼	2 K	ੵ	N	ICROE	HOL	DGY	 -	•	<u>8 3 3 </u>	_	#±	7sn/dd/		hh/mm e/p		<u> </u>	
1 3W-072012 E		 		Υ	\sqcup	-1			Ц.	44		11	44		207	A.		7/20/	12		89	3698	₹
2 3W-072012 N		<u> </u>		1_						Ш	丄				558			_1			: · · ·	٦٠	<u>.</u>
3 3W-072012 W	·					\perp			Ш		L		Ш		556							700	2
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6	14 14 14 1									\prod			H										
7								T	П		1.		П				7		1				
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10						-1			П								1	-					
		es shall b e listed on											·			L							
NOTE: REI will analyze incomino samples based upon information received end will not analysis as indicated on this Charle or Custody and il constitute an analytical services ago	be responsible to coment with payr	or errors or omissions in Ca nent terms of NET 30 days	siculati s, failus	ons resul e to com	iting fic aply wil	om the th pays	naccus	acy of o	rigjnal result l	data. By n a 1.59	signi 6 mor	ng dier hthly int	nt/oomp erest st	any repr	esentative	agree	s that :	ubmissi	on of th	e following sam	ples for re	quested	
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	Dats/Time:	77 . 2.				~ C	amer:			اع					Tem	p. (F	°) _		Yes	s/No Ye	s / No 	Yes)No	
Results: Contact Phone Email Fax Date		Time Initia		-	ntacf				_	Emall	_					72	-}(2		Time		initia		<u>~</u>
Contact Phone Email Fax Dale	1	rime Initia	als	Cor	ntact			Ph	опе	Email	Fax				Date				Time	<u>. </u>	Initia	als l	

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

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An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

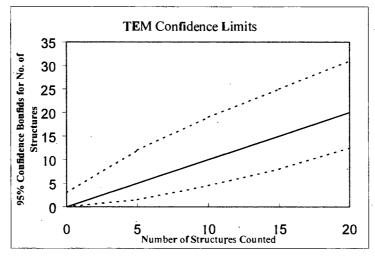
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrument	JEOL 100 CX N &
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	° 3 85
Secondary Filter Area (mm2)	
QA Type	

Client :	ROR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	207
Date received by lab	7/23/12
Lab Job Number:	240694
Lab Sample Number:	893698

Fraction of primary (liter used	_	
Total Resuspension Volume (ml)		
Volume Applied to secondary litter (ml)	7	

Analyzed by	JB
Analysis date	7/23/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

QATS 1/23

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blanic	= no
·	Ond Opening	Туре	Primary	Total	Lenoth	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
			S	مامه	reie	hed	@ >~0	aration d	ve la	ס נאט	oven filte	lba	dinu	
	·				7		1 9						,	}
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													·	,
												·		

Laboratory name:	. REI
Instrument	JEOL 100 CX N &
Voltage (KV)	100 KV
Magnification	20100 10100
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	333
QA Tyoe	

ROR
A
558
7 23 12
240694
893699

Analyzed by	JB
Analysis date	7/23/12
Method (D=Direct, I=Indirect, IA=IndIrect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primaty filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	dentification	Mineral Class				1 = y	es, blank	= no
0110	One opening	Type	Primary	Total	Length	Width	i donamou don	Amphibole	С	NAM	Sketch/Comments_	Sketch	Photo	EDS
A	H3-6	ND						<u> </u>						
	63-6	M			12w	ijΟ	À :	80% w	mf		52 debu	<u>. </u>		
	F3-6	M			For) -		30% in 6	uf	3	Le de bu	<u> </u>		
	E3-6	M			4			,	16		,			
	C3-6	M							13	7/3	23/12			
B	43-3	ND							1	'/	/			
	H33	M					•	/						
	63-3	M												
	F3-3	M												
	633	MD												

Laboratory name:	. REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area	
(mm2)	
QA Tyoe	<u> </u>

ROR
A
556.
7/23/12
240694
813700

F-Factor Calculation (Indirect Preps Only):								
Fraction of printary filter used								
Total Resuspension Volume (ml)								
Volume Applied to secondary filtar (ml)								

	· · · · · · · · · · · · · · · · · · ·
Analyzed by	JB
Analysis date	7/23/12
Method (D=Direct, t=Indirect, IA=Indirect, ashed)	0
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid			Structure No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blank = no		
- Ond	Ond Opening	Туре	Primary	Total	Total Length Widtl			Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K36	M												
	H3-6	MD				Pma		95%	ca h	n f	3-5%	dela	ı S	
	613-6	M				D	3	900/	, n	Int	3-5%	le m	S	
	F3-6	M		<u>.</u>	,	(
	E3-6	M						1.6	9/	23/13				
3	694-4	NO				_		71		<i></i>				
	FU-U	M					, •	/						
	EG-4	ND												
	64-4	M			·							·		
	B44	M												

Laboratory name:	REI
Instrument	JEOL 100 CX N &
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Туре	

Client:	ROR
Sample Type (A=Air, D=Dust);	A
Air yolume (L) or dust area (cm2)	558
Date received by lab	7/23/12
Lab Job Nimber:	240694
Lab Sample Number:	893701

Lab Sample Number.	- 13 701
F-Factor Caleulation (Indirect Pre	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	7/23/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	P
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Grid Opening		No. of Str	ructures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
GIN	Gild Opening	Туре	Primary	Total	Length	Width	Identification	Amohiboie	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K3-3	ND												
	H3-3	M				Pur	A	70%	hul	-	3-5% de	bus		
	63-3	M		<u>.</u>			B	70 % in	Luf		3-5% del	ris		
	F3-3	M							10	6	,			
	£3-3	M								9	23/12			
R	45-3	M					,							
7)	K5-3	W						/ •	,			·		
	145-3	M												
	615-3	W						•				·		
	F5-3	W				·							,	

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definifion given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Eauations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, s/cc = $\frac{\text{\# Asbestos Stnictures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff: Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000\text{cc}}$

Filter loading, $s/mm^2 = \frac{\text{\# Asbestos structures}}{\text{Area Analyzed (mm}^2)}$

GO = TEM grid opening



July 24, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 240695-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient In both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 240695-1 Is the job number assigned to this study. This report Is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described In this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage Is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 240695-1

Client:

R & R Environmental

Client Project Number / P.O.: Client Project Description:

None Given

Date Samples Received:

3rd West Sub - RMP

Analysis Type:

July 23, 2012

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

July 23, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID Ni	umber	Analyzed Volume Sampled		Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-071912 E	EM	893702	0.1000	869	ND	0.0044	BAS	BAS	
3W-071912 N	EM	893703	0.1000	869	ND	0.0044	BAS	BAS	
3W-071912 W	EM	893704	0.1000	866	ND	0.0044	BAS	BAS	
3W-071912 S	EM	893705) 0.1000	865	ND	0,0045	BAS	BAS	

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

DATA QA

Due Date: 3.24.12

REILAE RESERVEITS ENVIRONMENTAL, INC... Seo i Loaan St. Diener, CO 802 I6 · Ptr. 303 964-1966 · Fex 305-477-4276 · Tou Free :896 RESI-ENX

RES 240695

Pager: 303-S09-2098

			INV	OICE TO: (if			NT)										CONTA	CT (NFO	RMAT	ION:				
Company: R	if Environmental		Company:	•					Cont	act [)	2	osk	ollo					Con						
Address: 4	1 W 20005 #2		Address:						Ption	10: 6	SOI	54	(-(0	795	, –				Ptx	88:					
Sa	nds, W. 84020								Fax:										Fax	:					
										pagar:									Cett	/pager:					
Project Number Project Descrip	randbr P.O. #: otwo/Location: 3.00 Ulza Stub-(2MP							Fina	Cov				octresa:	tanp						_			•	
	OS LABORATORY HOURS: We				T			RE	QUE	STE	D A	NAL'	YSIS		_		T.	V	LIO	MATR	IX CC	OCES		AB NOT	ES:
PLM / PCM	RUSH (Same D	ay) K PRIORHY (Next (Day) STANDA	ARD	T		T	- -				T	T		m	\top	+-		= A			ulk = B	<u> </u>		
Ĭ		PCM = 2hr, TEM = 6hr.)					1	- 1	(11			1		Dus	t = D	_	Pa	aint = P			
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Matal(s) / D	DustRUS	H 24 hr3-5 Day]	된	1 1	- 1]		1_		1		1		Swab	= SW		F	= Food			
	fletals & Welding RUS	SH 5 day10 day	**Prior not required	itication is for RUSH	ş	Orant.	1		58		11	18		1];	<u>ا</u> ا	Drini	ing V	ater =	DW V	Vaste \	Water = WW			
Fumo Sear	1/ ICLP	-	turnaro		Point Count	+ Se Se Se Se Se Se Se Se Se Se Se Se Se	}	1	8	- 1	11	Quantifica				TES	<u> </u>			0 = 0 t	_		<u> </u>		
Organics		r 3 dayS Day			1 %	S 5	1 1	-	Metals	- }	11	8		ទី ទ		2	A	STM	1792	apcrove	d wipe	media only**	 		
	OLOGY LABORATORY HOUR	S: Weekdays: 9am - 6 24 hr2 Da			녛	2, 15			2	1		5	5	icati	န္တ	기발	1	-		1					
,	7:H7, Coliforms, S.aureus a, Listeria, E.coli, APC, Y & M	24 hr 2 Da			1 6	18 8	OSHA		Fume,	-		+	1	Quantificati	3	5 5	1.	. [-	1			<u> </u>		
Mold	, Listeria, E.Coil, APC, T & M	RUSH24 Hr		ay5 Day	L G M	Sec. 1	7400B, C	Respirable inte(s)			+	ž,	Out	+/- or Quan	a s	SOS									
"Turnaroun	d times establish a laboratory priority, su apply for afterno	blect to laboratory volume an urs, weekends and holidays."		ed. Additional fees	aport.	AK For	4	Re Re	TCLP, Welding		7.1	÷ 8			3 2	INITIALS OR OTHER NOTES	Ę		_				ļ		
Special Ins		<u> </u>		<u> </u>	Short	1 - AHERA, vi-quant, Mic	15.1	ST - Total, FALS - Ang	RCRA 8, TCI	ORGANICS - METH	E.coli 0157:H7:	Listerfa: Aerobic P	E.coli: +	Colforms. S.aureus:	Y & M. +	SAMPLERS	Sample Volume		# Containers	Da Colle	ite	Time Collected		mber (L Use Ordy)	
Client sa	mple ID number	(Sample ID's must be unic	tue)		1	YEM Semi	夏	META	õ	ĕ				LOGY		_se_	S S	3	2 P	myn/c		tilv/mm a/p	:	: 	
1 3W	071912E					X		L									869	A		7/14	117		8-	370	>2
2 3w-	071912 N		Elia di Leveria Nacionali di Salata								$\left\{\right\}$						869	\prod	T						3
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7					1		1 1	1		1	11						1				·- i				
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analysis a	Et will analyze jocoming samples based upon is indicated on this Chain of Custody shall con	ntonnation received and will not i stitute an analytical servicos agre	sement with payment	terms of NET 30 day	s, failu	ions resi	nply wit	h payme	nt tern	ns may	result	loata.	.514 m	onthly	ntere	onpany st surcha	epresenta rge.	UVO ag	rees th	at submis	shon ot i	the following sai	nples for re	equested	
Relinquis	shod By: Aut	Luci	Fed Ex				Date	Time:	7/1	2/12	,							amni	o Con	dition:		nice S	ealed	Intact	
Laborato Received By	shed By: (further a surpling Use Only)	lu.	Dale Time:	ヲ・ス	3			- Le		<u>- • (</u>			ل.	(E)	_							s/No Y	-	(es)	
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite Cr = Types Structure Types F = Fiber B = Bundle C = Cluster M = Matrix T = Tremolite

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

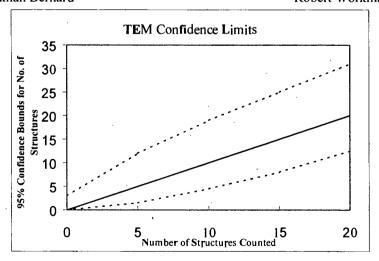
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.010
Scale: 11. =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filler Area (mm2)	
QA Type	

Client :	. K	aR				
Sample Type (A=Air, D=Oust):		A				
Air volume (L) or dust area fcm2)	869					
Date received by lab	. 7	23	12			
Lab Job Number:	24	069	5			
Lab Sample Number:	89	371	02			

F-Factor Calculation (Indirect P	reps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	7/23/2
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	
Counting rules	AHERA
(ISO, AHERA, ASTM)	HUELAL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

QATS 3/3

Grid	Grid Opening	Structure	No. of St	No. of Structures		nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Lengttı	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K3-4	ND												ļ
	H3-4	M			Pu	4	x 80	of an had	-	50	Johns			
	613-4	W			P		20	of a fant		50/10	Jebus			ļ
	F3-4	ND								/				
	E3-4	ND			į			18	7/	23/12)			l
B	63-6	MD				*		77						
	F3-6	$\widetilde{\mathcal{M}}$						/ /			•			
	E3-6	\mathcal{L}												
	C3-6	$\tilde{\Delta}$												<u> </u>
	136	(N												

Laboratory name:	RE1
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grkl opening area (mm2)	0.010
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	·

Client :	. 7	Q.					
Sample Type (A=Air, D=Dust):	(A					
Air volume (L) or dust area (cm2)	8	360	7				
Date received by lab	7	23	12				
Lab Job Number:	240	269	5_				
Lab Sample Number:	89	893702					

F-Factor Calculation (Indirect Pr	reps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	7/23/2
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	
Counting rules (ISO, AHERA, ASTM)	AHERA
Grkl storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture	No. of St	ructures	Dimensions		Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Wkith		Amphibola	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	63-6	MD					0							
,	F3-6	M			Ya	ω 1	1 5	Donto	nf		5/2 delov	-5		
	E3-6	M			Po		3 7	Oolamba	1	<u> </u>	The deby	5		
	(3-6	M				-			_/_	· · · · · ·	/ _			
	B3-6	M						1	8	7/2	3/12			
3	F5-4	ND												
	65.4	N												
	(5-4)	M												
	F3-3	ND										,		
	133	M		•										

Laboratory name:	RE1
Instrument	JEOL 100 CX N (\$)
Voltage (KV)	100 KV
Magnification	2010× 1010X
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filtor area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

ROR
A
866
7/23/2
240695
893704

F-Factor Calculation (Indirect Preps Only):								
Fraction of primary tilter used								
Total Resuspension Volume (ml)								
Volume Applied to secondary filter (ml)								

Analyzed by	JB
Analysis date	7/23/2
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D'
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture Type	No. of St	mctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
			Primary	Total	Length	Wkith		Amohibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	43-3	ND									,			
	H33	M). 4∧∆_	A	50 % unt	nf	3	-10% of	bus		
	613-3	M			<u> </u>	Δ	3 8	20 humm	nt	<	5-10% del	ws	·	<u></u>
	F3-3	ND			'	Y				6	/_/			
	E3-3	MD								5 3	23/12			
6	45-4	M					3			/	J			
	1952	M						/-	·					
	75-4	M												
	ES-4	M												
	644	M												

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	2010x 10KX
Grid opening area (mm2)	0.010
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

7	(aR					
(7					
86	5	-				
7	23	12				
240695						
893704						
		24069				

Analyzed by	JB
Analysis date	7/23/2
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	10
Counting rules (ISO, AHERA, ASTM)	AHERA
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pr	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dìmer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Ond	Grid Opening	Туре	Primary	Total	Length	Width	identinoduon	Amphibole	С	NAM	Sketch/Comments_	Sketch	Photo	EDS
A	H4-6	ND		<u></u>			À	· · · · · · · · · · · · · · · · · · ·						
	64-6	M			?	~ ∆	70	of when		5	Lebys			
	F4-6	W			Pn	1 /	\$ 80	of interior	<u> </u>	5	ne debus			
	E4-6	M			'	1			4		<i></i>			
	F4-6	M			·			11	5	1/23/1	2			
5	H3-3	ND						7/	/					
	613-3	M		. •										
	F3-3	M			•									
	E3-3	M						·						
	F4-3	ND					-							

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

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micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel artangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# \ Asbestos \ structures}{Area \ Analyzed \ (mm^2)}$

GO = TEM grid opening